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ABSTRACT

The prevalence of stress-related medical conditions in clients of Readjustment Counseling Service at Veterans Centers was investigated. The purpose of the study was to gain further knowledge specifically pertaining to the long-term health consequences of exposure to combat trauma. A review of relevant literature is provided. Veterans Center clients (N=600) were surveyed using a five-page self-report checklist regarding their histories of 56 stress-related medical conditions. Demographic characteristics are described. The results indicated that veterans exposed to high stress (combat) reported more medical problems than did veterans not exposed to high stress (noncombat). Among body systems, musculoskeletal and respiratory systems were shown to be especially affected by the high stress. Age differences are reported. Native American vets reported the highest average number of medical conditions, but no differences were found among ethnic groups in types of medical conditions. Veterans who reported a high number of psychological symptoms also reported more stress-related medical conditions than others. Results and clinical implications are discussed. (Author/EMK)

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A Survey of Stress-Related Illnesses

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ABSTRACT

The prevalence of stress-related medical conditions in Readjustment Counseling Service (RCS) Vet Center clients was investigated. Six hundred Vet Center clients were surveyed regarding history of 56 stress-related medical conditions. The results indicated that veterans exposed to high stress (combat) reported more medical problems than did veterans not exposed to high stress (non-combat). Among body systems, musculoskeletal and respiratory systems were shown to be especially affected by the high stress. Veterans who reported a high number of psychological symptoms (PTSD) also reported more stress-related medical conditions than others.

A Survey of Stress-Related Illnesses

Although the relationship between psychological stress and physical illness was elaborated more than forty years ago (Selye, 1956), much remains to be learned about the long term health consequences of severe psychological trauma. Our purpose in conducting this study was to gain further knowledge specifically as pertains to the long term health consequences of exposure to combat trauma. Of late, this issue has become critical as changes to the nation's healthcare system for veterans have mandated shifting of resources and increased collaborative endeavors among providers of psychological and physical health care.

Selye had speculated that high stress accompanied by chronic hyperarousal would eventually lead to physical damage to one or more body systems (Selye, 1956). More recently, Everly (1989) concluded that the increased blood pressure, muscle tension, and heart rate associated with high stress was at the psychogenesis of a number of gastrointestinal, cardiovascular, respiratory, musculoskeletal, skin, immune, and psychological disorders. Although the precise mechanisms by which chronic or severe stress could lead to development of physical health problems remain unclear, it has been speculated that functional changes in endocrine or hormonal

systems could result in weakened immune systems and consequent increased vulnerability to various diseases (Schneiderman, McCabe, & Baum, 1992).

Research with combat veterans has generally supported a link between psychological stress and physical illness. The National Vietnam Veterans Readjustment Study reported that men and women exposed to high levels of war zone stress reported higher rates of physical health problems than other theater veterans, era veterans, and civilians (Kulka, Schlenger, Fairbank, Hough, Jordan, Marmar, & Weiss, 1990). Also, recent researchers investigating biological changes in male Vietnam Veterans with PTSD concluded that permanent changes occurred in the regulation of the hypothalmic-pituitary-adrenal axis following traumatic experiences (Yehuda, Boisoneau, Lowy, & Giller, 1995).

Several investigators reported evidence that certain reactions to high stress (e.g., PTSD) may exacerbate subsequent health problems (Friedman & Schnurr, 1996). Wolfe, Schnurr, Brown and Furey (1994) showed that exposure to high stress and presence of PTSD symptoms were together more predictive of health problems in trauma survivors than exposure to trauma alone. Similarly, Boscarino (1997) found that veterans with PTSD have higher lifetime prevalence of circulatory, digestive, musculoskeletal, and other disorders as many as twenty years after serving in the military.

It is important to note that one recent study failed to find support for a link between psychological stress and physical illness. Gray, Coate, Anderson, Berg, Wignall, Knoke, and Barrett-Connor (1996) examined the utilization of health services by Persian Gulf veterans. They found that combat and non-combat veterans had similar rates of hospitalization over a two-year period following the Persian Gulf war.

Specific purposes of our study were to answer the following questions. Do veterans exposed to high stress (combat) report more health problems than veterans not exposed to high stress (non-combat)? What body systems are most vulnerable to combat stresses? What demographic characteristics of veterans are associated with increased risk for health problems? And, are veterans who report psychological problems more likely to report health problems?

Veterans participating in this study were active clients of Department of Veterans Affairs Readjustment Counseling Service Vet Centers. Vet Centers are small (average staff of four persons), community-based counseling centers established by Public Law in 1979 to assist veterans with such readjustment issues as PTSD, substance abuse, employment problems, family or marital issues, homelessness, and other concerns.

Method

Subjects

Twelve Vet Centers in the Southeast were randomly selected to participate in this study. Each team administered a survey questionnaire to fifty consecutive clients. Veterans who were intoxicated, acutely psychotic, or in crisis were not asked to complete questionnaires.

Instrument

The survey questionnaire was a self-report five-page checklist of basic demographic data and fifty-six physical disorders. Physical disorders were grouped by body system (skin, respiratory, gastrointestinal, endocrine, senses, musculoskeletal, cardiovascular, urogenital, and neurological). In addition, there were a total of eight psychological items on the survey, all of which have been linked to PTSD (Meichenbaum, 1994; Melman, Kulick-Nell, Ashlock, & Nolan, 1994). These items included anxiety, depression, nightmares, insomnia, phobias, vertigo, memory problems, and panic attacks. The questionnaire could be completed in five to ten minutes with minimal difficulty. Medical and psychological conditions were described in easy to understand terms. Other researchers have reported that such self-reports of health status were significantly correlated with measures of morbidity (Zautra, Okun, Robinson, Lee, Roth, & Emmanual, 1989).

Procedure

Participating Vet Centers were sent fifty questionnaires with instructions and administration procedures. Veterans were informed that their participation was voluntary, and their choice to complete the survey would not impact on services. Surveys were completed in private and returned to investigators in one batch when all surveys had been completed. There were no personal identifying data on questionnaires.

RESULTS

Demographic Characteristics of Respondents

A total of six hundred veterans completed questionnaires. The average age of respondents was 47.6 years, and ninety-three percent were males. The three major cohorts of veterans were Vietnam Theater (65%), Vietnam-era Non-Theater (14%), and Persian Gulf (8%).

Do Veterans Exposed to High Stress Report More Health Problems?

Veterans exposed to high stress (combat) reported almost twice the number of medical conditions as those who were not exposed to high stress (non-combat). Combat Veterans endorsed an average of 17.6 medical conditions as compared to the non-combat Veterans who averaged 8.9.

Combat veterans who were awarded the Purple Heart reported somewhat more medical conditions (m=17.8) than those who were not (m=14.6).

In order to determine if differences in number of medical conditions reported by high stress and low stress veterans were statistically significant, a comparison between Vietnam combat and Vietnam non-combat veterans was performed. Vietnam combat veterans reported significantly more medical conditions than era-veterans (chi-square=466.752, $p<.005$).

What Body Systems Are Most Vulnerable to Combat Stresses?

Musculoskeletal disorders were the conditions most frequently endorsed as having been experienced since leaving military service. Among all disorders listed on the survey, the four most frequently endorsed conditions were in this group (tension headache, backache, arthritis, and twitching muscles). Respiratory disorders were the second most frequently endorsed group. These included such conditions as sinusitis, allergy, and colds. Table 1 displays body systems in rank order of endorsement.

What Demographic Characteristics Are Associated with Increased Risk for Health Problems?

Four demographic characteristics were examined to identify possible risk factors for health problems among veterans. These risk factors were gender, period of service, ethnicity, and age.

Gender. Notwithstanding the fact that the vast majority of study participants were male, the average number of items endorsed by males and females was similar. Males averaged 15.2 conditions per veteran and females averaged 15.7 conditions. Male and female veterans were alike in the kinds of medical conditions reported. In order of frequency, male and female veterans reported experiencing musculoskeletal, respiratory, and skin disorders most frequently.

Period of Service. Veterans were divided into one of four groups to examine effects of period of service on health problems: Vietnam Theater, Vietnam-era non theater, Persian Gulf, and Korean War Zone. Vietnam Theater veterans reported the highest average number of medical conditions per veteran (17.8), followed by Korean War Zone veterans (12.8), Persian Gulf veterans (11.5), and Vietnam non-theater veterans (8.8).

Ethnicity. Only eleven subjects were Native American. However, Native American veterans reported the highest average number of medical conditions (m=28.9). This finding is consistent with results of the recent Matsunaga study (National Center for PTSD & National Center for American Indian and Alaska Native Mental Health Research, 1997). It was found in that study that American Indian veterans reported the poorest physical health and highest level of use of medical care of any of the ethnic groups of the

Vietnam conflict. Average number of medical conditions reported by other ethnic groups was as follows: Caucasian, 16.5; Hispanic, 14.6; and African American, 11.9.

Data were further examined to identify differences among ethnic groups in types of medical conditions reported. No differences were found among ethnic groups in types of medical conditions.

Age. Veterans in the age group 50-59 years reported the highest average number of medical conditions (m=17), and those 30-39 years reported the least. Table 2 displays the average number of medical conditions reported by each age group. The oldest group (70+), surprisingly, was only fourth in average number of medical conditions reported.

Do Veterans Who Report More Psychological Problems Report More Health Problems?

We compared the health conditions reported by two groups of veterans: those reporting a low number of psychological conditions (0,1,or 2), and veterans reporting a high number of psychological conditions (6,7,or 8).

Veterans in the low group reported an average of 5.9 medical conditions. Veterans in the high group reported an average of 16.0 medical conditions. These data are interpreted as clearly supportive of the concept

that traumatized persons who develop psychological/PTSD symptoms are most at risk to develop negative health outcomes.

Discussion

This investigation provided further evidence of a strong link between severe stress and quality of health. In addition, findings supported the concept that occurrence of psychological/PTSD symptoms is a critical factor relating to which trauma survivors suffer more frequent health problems in their later years.

The high frequency of certain reported medical conditions among respondents to this survey suggests that comprehensive screening of traumatized persons ought to include evaluation for musculoskeletal (arthritis), respiratory (sinusitis), and cardiovascular (hypertension) disorders. High occurrence of stress related health conditions observed among Native American respondents supports findings of other researchers, and confirms that traumatized Native American veterans should especially be a target for health screenings.

Associated with a traumatic event history is a relatively high number (39%) of subjects who report one or more medical problems of the musculoskeletal body system. Apparently, the mechanism by which chronic stress leads to physical health problems is such that tension headache,

backache, twitching muscles, arthritis and rheumatism become primary focal points of the body's response to stress. Medical interventions such as relaxation therapy, biofeedback, massage therapy, physical therapy and muscle relaxing medications would appear to be on the list of important interventions that may be assistive to this group of veterans.

Thirty-five percent of the respondents reported high blood pressure. This level of hypertension in the sample is far above the national rate of fourteen percent estimated for the general population (Berkow, 1987). Because of the long term negative health impact of hypertension, these data suggest that medical professionals who work with combat veterans should routinely screen for cardiovascular related illnesses.

The finding of a lack of a more linear relationship between age and medical condition was surprising. It appears from the data that occurrence of psychological symptoms was very strongly related to occurrence of other health conditions as well. Respondents in the 18-29 and 30-39 year old age groups reported the lowest rate of medical conditions. The 40-49 and 50-59 year old age groups had more medical conditions than any other age group, including older veterans. This group includes Vietnam veterans who also reported the most psychological/PTSD symptoms. We had expected that older veterans would report more physical health concerns as a natural

consequence of aging. The group of Vietnam-era Non-Theater veterans reported a lower average number of medical conditions than any other group. It is probable that this group of veterans has not been impacted by combat-related psychological trauma and its negative effect on physical health as have the other groups of combat veterans.

Finally, in consideration of the findings of this study, it is important to consider its limitations. Notwithstanding the fact that retrospective, self report surveys are not uncommon in psychosocial and health research, it is possible that reports about past conditions may have been influenced by current psychological states or motives (maintaining benefits).

A second limitation of this study relates to the representativeness of the sample. Although the Vet Centers were selected by random procedures, the subjects were not. Rather, subjects were those veterans who came in for scheduled appointments during the study timeframe. Also, how representative treatment seeking veterans are as compared to the universe of veterans is open to some conjecture.

With the above limitations in mind, the results of this survey indicate that clinicians who work with combat veterans should be aware of the long-term physical impact of severe psychological trauma on the human body. Clinicians should consider extending their models of PTSD assessment and

treatment (e.g., Hayman, Somers-Flanagan, & Parsons, 1987; Meichenbaum 1994) to include health screening. A close review of medical records along with systematic health screening could help clinicians to diagnose and treat these medical disorders before they become chronic physical conditions.

TABLE 1

STRESS RELATED PHYSICAL ILLNESSES RANKED BY BODY SYSTEM

Rank	Body System	Number Of Items	Total Responses	Avg. No. Responses Per Item
1	Musculoskeletal	7	1,826	260.9
2	Respiratory	7	888	126.9
3	Skin	5	616	123.2
4	Cardiovascular	7	861	123.0
5	Neurological	4	489	122.3
6	Gastrointestinal	7	734	104.9
7	Sensory	6	610	101.7
8	Glandular	3	173	57.7
9	Urogenital	10	380	38.0

TABLE 2

MEDICAL CONDITIONS, BY AGE GROUP

Age Group	Average Number Of Medical Conditions Reported
18-29 years	10.7
30-39 years	10.1
40-49 years	15.5
50-59 years	17.0
60-69 years	13.5
70-over	11.8

References

Berkow, R. (Ed.) (1987). The Merck Manual, Rahway, NJ: Merck.

Boscarino, J. (1997). Diseases among men 20 years after exposure to severe stress: Implications for clinical research and medical care. Psychosomatic Medicine, 59, 605-614.

Everly, G. (1984). A clinical guide to the treatment of the human stress response. New York: Plenum.

Friedman, M.J., & Schnurr, P. (1966). The relationship between trauma, PTSD, and physical health. In M.J. Friedman, D.S. Carney, & A.Y. Deutch (Eds.), Neurobiological and clinical consequences of stress: From normal adaptation to PTSD. New York: Raven Press.

Gray, G., Coate, B., Anderson, H., Berg, S., Wignall, F., Knoke, J., & Barrett-Connor, E. (1996). The postwar hospitalization experience of U.S. veterans of the Persian Gulf war. The New England Journal of Medicine, 335, 1505-1513.

Hayman, P.M., Sommers-Flanagan, R., & Parsons, J. (1987). Aftermath of violence: Postraumatic Stress Disorder among Vietnam Veterans. Journal of Counseling and Development, 65, 363-371.

Kulka, R.A., Schlenger, W.E., Fairbank, J.A., Hough, R.L., Jordan, B.K., Marmar, C.R., & Weiss, D.S. (1990). Trauma and the Vietnam war generation: Report of findings from the National Vietnam Veterans Readjustment Study. New York: Brunner/Mazel.

Meichenbaum, D. (1994). A clinical handbook/practical therapist manual for assessing and treating adults with Post-Traumatic Stress Disorder. Waterloo, Ontario (Canada): Institute Press.

Mellman, T., Kulick-Bell, R., Ashlock, L., & Nolan, B. (1995). Sleep events in combat-related Post-Traumatic Stress Disorder. The American Journal of Psychiatry, 152, 110-115.

National Center for Post-traumatic Stress Disorder, & National Center for American Indian and Alaska Native Mental Health Research. (1997). Matsunaga Vietnam Veterans Project, Vols. 1&2. White River Junction (VT): National Center for Post-traumatic Stress Disorder.

Schneiderman, N., McCabe, P., & Baum, A. (Eds.) (1992). Stress and disease processes. Hillsdale, N.J.: Erlbaum Assoc.

Selye, H. (1956). The stress of life. N..Y.: McGraw-Hill.

Wolfe, J., Schnurr, P., Brown, P., & Furey, J. (1994). Posttraumatic Stress Disorder and War-zone exposure as correlates of perceived health in female Vietnam war veterans. Journal of Consulting and Clinical Psychology, 62, 1235-1240.

Yehuda, R., Boisoneau, D., Lowy, M., & Giller, E., (1995). Dose-response changes in plasma cortisol and lymphocyte glucocorticoid receptors following dexamethasone administration in combat veterans with and without Posttraumatic Stress Disorder. Archives of General Psychiatry, 52, 583-593.

Zautra, A., Okun., M., Robinson, S., Lee, D., Roth, S., & Emmanual, J. (1989) Life stress and lymphocyte alterations among patients with Rheumatoid Arthritis. Health Psychology, 8, 1-14.

References

Berkow, Robert, MD, (1987). The Merck Manual, Merck & Co., Inc., 1292.

Boyle, C.A., Decoufle, P., Delaney, R.J., Destefano, F., Flock, M.L., Hunter, M.I., Joesoef, M.R., Karon, J.M., Kirk, M.L., Layde, P.M., McGee, D.L., Moyer, L.A., Pollock, D.A., Rhodes, P., Scally, M.J., Worth, R.M. (1987). Postservice Mortality Among Vietnam Veterans. (U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, 1-2.)

Colorado Health Net, (1997). An Overview of Arthritis and Related Disorders. Internet address, [http://bcn.boulder.co.us/health/chn/arthritis/arth_over.html].

Elder, G.H. Jr., Ph.D., Shanahan, M.J., Ph.D., Clipp, E.C., Ph.D., R.N. (1997). Linking Combat and Physical Health: The Legacy of World War II in Men's Lives. American Journal Psychiatry, 154:3, March, 330-336.

Everly, G.S. Jr., (1989). A Clinical Guide to the Treatment of the Human Stress Response, Plenum Press, New York.

Goldberger, L., and Breznitz, S., (1982). Handbook of Stress, Theoretical and Clinical Aspects, The Free Press, New York.

Kulka, R.A., Ph.D., Schlenger, W.E., Ph.D., Fairbank, J.A., Ph.D., Hough, R.L., Ph.D., Jordan, K.B., Ph.D., Marmar, C.R., MD, Weiss, D.S., Ph.D., Grady, D.A., Psy.D., (1990) Trauma and the Vietnam War Generation, Brunner/Mazel, New York.

Lating, J.M. and Everly, G.S. Jr., (1995). Psychophysiological Assessment of PTSD. In Everly and Lating (Ed.) Psychotraumatology, Plenum Press, New York. 129-145.

Selye, H., (1956). The Stress of Life, McGraw-Hill, New York.

Ullman, S.E., and Siegel, J.M., (1996). Traumatic Events and Physical Health in a Community Sample. Journal of Traumatic Stress, 9(4), 703-721.

van der Kolk, B., McFarlane, A.C., Weisaeth, L., (Ed.) (1996). Traumatic Stress, The Effects of Overwhelming Experience on Mind, Body, and Society. The Guilford Press, New York.

Wolfe, J., Schnurr, P.P., Brown, P.J., Furey, J. (1994). Posttraumatic Stress Disorder and War-Zone Exposure as Correlates of Perceived Health in Female Vietnam War Veterans. Journal of Consulting and Clinical Psychology,. 62(6), 1235-1240.

Yehuda, R., Boisoneau, D., Lowy, M.T., Giller, E.L., (1995). Dose-response changes in plasma cortisol and lymphocyte glucocorticoid receptors following dexamethasone administration in combat veterans with and without posttraumatic stress disorder. Archives of General Psychiatry.. 52(7) July, 583-593.